

Weekly Report 2016.07.04-2016.07.10

Progress:

1. Huawei Project.

This week I went to Huawei for two days.

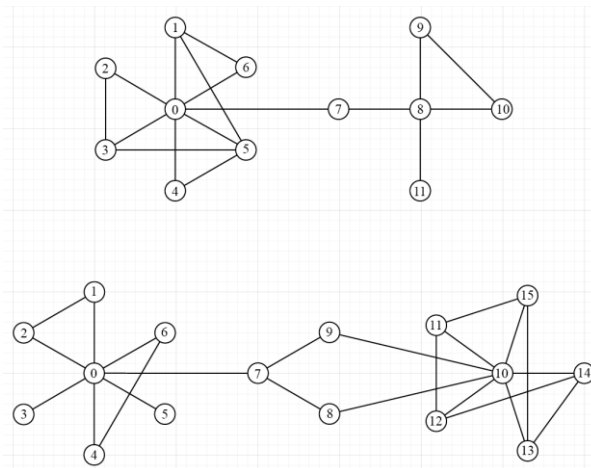
Because the version of jars Huawei provided are upgraded, the backend of the project is not working. It takes us some time to locate where the bug is. After that, I revised the backend code according to the new api.

I also showed the layout generate by force atlas2 in Gephi. I used two network datasets, one is provided by Huawei with 1000 nodes and 31000+ edges, the other is a dataset I downloaded from internet with some significant structures. Zhenhua is pleased with the layout result of the latter dataset. However, whether a layout is clear or not has strong relationship with the network data itself. I explained this to Zhenhua.

Zhenhua send us the SOW file, I read through it and find some problems. The performance requirements of the new tasks are not written out, I think it is important to write out that the new tasks are not required to be rendered in 1s. Also the task of visualization of raw data is not deleted.

2. Temporal Ensemble Rankings

This week I drew the figure which demonstrate the motivation of our paper.



3. Papers

1) Visual Debugging Techniques for Reactive Data Visualization

This paper contributes a set of visual debugging techniques to reveal the runtime behavior of reactive visualizations. This technique major focus on the debugging of interactions in a visualization system.

2) A Survey of Two-Dimensional graph layout techniques for information visualization

This paper introduced various of graph layout techniques, including Furchterman and Reingold, Linlog, Force Atlas, HDE, GRIP, FM3, etc. According to this paper, FM3 might be a good choice, for it have relatively high performance and high quality layout result.

3) Drawing Large Graphs with a Potential-Field-Based Multilevel Algorithm

I read the paper of the FM3. This technique has two major steps. The first step divides the network into “solar” systems, construct a network based on these systems, and calculate the layout of this network. The second step calculate the force iteratively based on a reduced quad tree.

4) Visual Analysis of Governing Topological Structures in Excitable Network Dynamics

Plan:

1. Huawei Project

Finish the interactions.

Finish the requirement analysis.

2. Vis Submission

Finish the motivation of this work.